

Micromeritics Delivers Optimized Solution for Carbon Black Testing in accordance with latest ASTM Classification

Introducing the Dynamic Void Volume Analyzer (DVVA) II for automated, environmentally benign testing, for rubber compounding

NORCROSS, GEORGIA, UNITED STATES, January 21, 2020 /EINPresswire.com/ -- Micromeritics Instrument Corp., a leader in material characterization technology, has developed an optimized, automated solution for customers looking to characterize carbon blacks in accordance with the newly revised ASTM D1765-18 Classification System for Carbon Blacks Used in Rubber Products. Following a final balloting of ASTM Committee D24 on [Carbon Black](#) this system now includes void volume analysis by ASTM test method D7854-18c (Standard test method for Carbon Black – Void Volume at Mean Pressure) facilitating a switch to more environmentally benign testing. The Micromeritics DVVA II delivers safe, clean analysis, fully compliant to the newly included protocols, with analysis times of approximately ten minutes.

Carbon black is widely used as a filler to make reinforced rubbers with optimized properties, for example, for tire production and anti-vibration solutions. Additionally, specialty carbon blacks are widely used in plastics and pigments. Multiple material properties underpin the standard classification of the carbon blacks used. These are measured to define and distinguish different grades. Carbon black aggregate structure is one of the properties assessed to provide information for optimization of the carbon black/polymer ratio, a key design parameter. Traditionally, aggregate structure has been analyzed via oil absorption testing, but this frequently uses a toxic oil, generates significant amounts of hazardous waste, requires a large amount of sample and is not as reproducible as void volume measurement.

The Micromeritics DVVA II is a state-of-the-art fully automated dynamic void volume analyzer that measures the compressed void volume and apparent density of carbon black powders with precision and accuracy. In a void volume determination, changes in the apparent volume of a sample are measured as a function of geometric mean pressure by subjecting the sample to progressively higher applied pressures, up to 230 MPa. The new classification system includes values of void volume at 50 MPa geometric mean of applied and transmitted pressure for a group of nineteen commercially available reinforcing carbon blacks, each of which is produced by two or more providers. Void volume determinations were performed, in accordance with ASTM D7854-18c, to provide a range of values for each grade.



Micromeritics Dynamic Void Volume Analyzer II is an automated solution for testing carbon blacks in accordance with the newly revised ASTM D1765-18 Classification System for Carbon Blacks Used in Rubber Products

Using the DVVA II, carbon black producers and users can easily and efficiently access the benefits of the newly revised classification system. The measurement requires no chemical agents, uses a relatively small amount of sample, is highly reproducible and generates no hazardous waste. A range of parameters can be calculated to maximize the information regarding each sample with analysis taking on the order of just ten minutes. To find out more about how the DVVA II can help to optimize your test protocols for carbon blacks click [here](#).

About Micromeritics Instrument

Micromeritics Instrument Corporation is a global provider of solutions for material characterization with best-in-class instrumentation and application expertise in five core areas: density; surface area and porosity; particle size and shape; powder characterization; and catalyst characterization and process development.

The company is headquartered in Norcross, Georgia, USA and has more than 400 employees worldwide. With a fully integrated operation that extends from a world-class scientific knowledge base through to in-house manufacture, Micromeritics delivers an extensive range of high-performance products for oil processing, petrochemicals and catalysts, to food and pharmaceuticals, and works at the forefront of characterization technology for next-generation materials such as graphene, metal-organic-frameworks, nanocatalysts, and zeolites. Under its premium brand Particulate Systems, Micromeritics discovers and commercializes innovative material characterization technologies that are complementary to core product lines. Cost-efficient contract testing is offered via its laboratory Particle Testing Authority (PTA).

The strategic acquisitions of Freeman Technology Ltd and Process Integral Development S.L. (PID Eng & Tech) reflect an ongoing commitment to optimized, integrated solutions in the industrially vital areas of powders and catalysis.

For additional information visit www.micromeritics.com

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